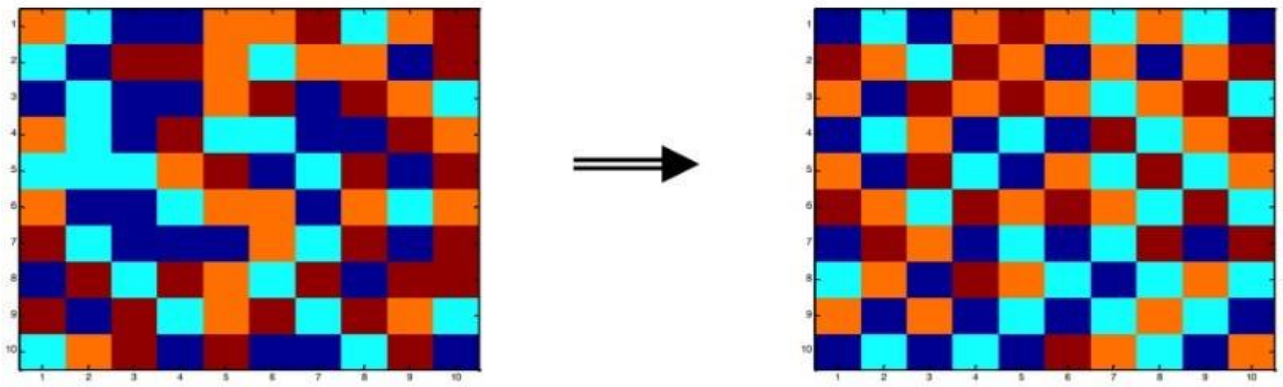
Istanbul University - Cerrahpasa
Computer Engineering Department
Artifical Intelligence And Expert Systems

Project Description

In this project you will use Hill Climbing Search and Genetic Algorithm to solve the Checker Board problem given below:



You are given an n by n checkerboard, in which every square can be one of four distinct colors.
The goal is to arrange the colors on the checkerboard such that no two adjacent squares have the same color, considering only row-wise and column-wise adjacency (not diagonal).
The objective is to reach a specified goal state, such as the one shown on the right.

Implement an agent to solve this problem with the following methods:

- Hill Climbing Search Algorithm
- Genetic Algorithm

You should create a random problem generator and try your agent for 10 random problems.
You may use any programming languages and platforms.

You will write a report comparing these algorithms. You must report the following:

- the results should be represented in an understandable way, say through graphs, tables and/or images.
- sample input and corresponding output files (Printouts to show that your code works for each algorithm)

Your report must not be more than 3 pages !!!

WHAT TO SUBMIT :

Attached to the report, you shoul also submit
a. your source codes,
b. an instruction file on how to compile and run the codes.